CMCC: 74X5.2
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SAFE 22401
COPY 1 OF 1

25X1A

9 December 1957

To: [redacted] WRSP(3)

7+8
A-1 D 1

From: R-W

Information: Headquarters

Subject: Reply to field report dtd 28 October 1957

From: [redacted]

25X1A

Item 1.

The tuning method described in this report is perfectly valid and probably superior to the old method except for item 1(d). Caution should be exercised when connecting the high output of the 111-A directly to the mixer cathode, since the IN21B crystal in the 111-A may be damaged by the d-c potential on the cathode.

Item 2.

Tests conducted on a current production test set indicate that sweep intervals from 3.3 to 3.7 ms can be processed with equipment in the field at present.

By reducing R2186 from 15K to 8.2K and increasing R2187 from 10K to 50K, sweep widths from 3.0 to 4.1 ms can be accommodated by the test set.

We are forwarding three sets of parts to make these changes.

Items 3 and 4.

Technical Publications has been notified.

Item 5.

On the basis of the information given, it would be difficult to determine why it was necessary to retune the first local oscillator crystal coils in this case.

Item 6.

This trouble sounds like a component failure, but more information about the tuning characteristics would be required to pinpoint the faulty part. On rare occasions the ground on the tuning slug becomes intermittent and could cause this trouble. However, the spring collar on the coil form is usually found to be missing when this occurs.

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Item 7.

Eyelets were originally abandoned because, with the earlier types of eyelets, the film of solder between eyelet flange and etched board circuitry was extremely thin and in some cases non-existent. Hence, temperature contractions of the board caused open circuits to appear. Plated-through holes solved this problem but, as you have indicated, such holes are not very rugged mechanically. We now use in Production a new type of eyelet in which the eyelet flange, rather than being completely flattened out on the board surface, has a slight funnel shape so that a fillet of solder forms between the eyelet flange and printed circuitry. This seems to overcome the objections found in previous methods. And, as an additional precaution in present System 3 production, both plated-through holes and funnel eyelets are being used. When statistical data and field reports on funnel eyelets used alone are obtained we can probably revert to their use alone with greater confidence. It would be impossible to retrofit funnel eyelets into units already manufactured and in the field.

Item 8.

Providing the AGC versus frequency curve, given in the report, can be maintained there should be no danger in tuning the first local oscillator for maximum AGC. However, I would like to find out whether or not this curve is influenced by the coil across the crystal (in the high frequency circuits) before recommending this method of tuning.

25X1A

GKT:kg

[redacted]

Att: (with Copy 1 hereof only)
(3 sets of parts, per Item 2)